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ABSTRACT

Jersey City State College (New Jersey) developed a local evaluation model to assess all salient aspects of the institution's basic skills program. The college's Academic Foundations Program was implemented to address the needs of urban educationally disadvantaged students. It includes faculty and staff development and research, freshman course placement based on student performance on a state-mandated placement test, and remedial courses in English, reading, and mathematics. Proficiency levels and remedial-course exit criteria are determined by student performance on course posttest measures. In developing the evaluation model six program objectives were formulated: (1) establishment of a cohesive structure for the basic skills program; (2) remedial course placement rates; (3) first-year course outcomes; (4) skills developed by basic skills course completers; (5) subsequent academic performance and retention rates; (6) basic skills research conducted by faculty and staff. Quality indicator standards were set based on program structure, characteristics of target and comparison groups such as peer institutions, and statewide policies with respect to basic skills. Qualitative and quantitative data were compiled. Results showed that five of the six objectives were met. The quality indicator standard was met in English and mathematics but not in reading. Data showed that the basic skills program objectives were met overall for the 1992-93 academic year. (Contains 14 references.) (JB)

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THE IMPLEMENTATION OF A LOCAL MODEL TO ASSESS THE BASIC SKILLS PROGRAM AT A FOUR-YEAR PUBLIC COLLEGE

Paper Presented at The Annual Forum of
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This paper was presented at the Thirty-Fourth Annual Forum of the Association for Institutional Research held at The New Orleans Marriott, New Orleans, Louisiana, May 29, 1994 - June 1, 1994. This paper was reviewed by the AIR Forum Publications Committee and was judged to be of high quality and of interest to others concerned with the research of higher education. It has therefore been selected to be included in the ERIC Collection of Forum Papers.

Jean Endo
Editor
Forum Publications

THE IMPLEMENTATION OF A LOCAL MODEL TO ASSESS THE BASIC SKILLS PROGRAM AT A FOUR-YEAR PUBLIC COLLEGE

A local evaluation model was developed to assess all salient aspects of the College basic skills program. In view of the needs of the freshman population, six program objectives were formulated. Objectives focused on the program structure, course placement indices, course outcomes, skill development, long-term performance and retention, and research. Quality indicator standards were set in view of the College organizational structure and the frame of reference provided by peer institutions. Qualitative and quantitative data were compiled. Results showed that five of the six objectives were met. The model may be adapted to assess programs at other postsecondary institutions.

A local model was developed to assess the basic skills program that is provided for freshman students at Jersey City State College. The usefulness of local models that reflect the student population and the programs offered at individual institutions has been cited by higher education researchers. Ewell (1985) has noted: "--- outcomes assessment programs need to be carefully tailored to their institutional and curricular settings (p. 115)." Further, Pace (1990) has stated: "Each college should clarify --- the clientele it is prepared to serve, and the achievements it expects of the students it admits (p.8)." Therefore, the Director of Institutional Research has developed a local model in view of the population served and the resources allocated at Jersey City State College, a four-year public New Jersey college.

In so doing, it was important to gather information from a variety of sources to understand the needs of the entering freshmen and to facilitate the development of basic skills program objectives. Data indicated that, with respect to demographic and academic characteristics, the local students differed considerably from undergraduates at the other four-year New Jersey colleges (Lyons, 1992a, 1992b). Whereas the other state institutions enroll a predominantly traditional population, Jersey City State College is unique in serving an urban student group. In this regard, the majority of New Jersey college students are white, recent high school graduates who initially enroll full time in regular academic programs. On the other hand, the Jersey City State College undergraduate population is comprised of many adult, minority, financially and educationally disadvantaged students whose employment and college attendance patterns reflect the life situations of adults who live in urban areas.

This unique set of characteristics, indigenous to Jersey City State Colleg students, is evident at the national level as well (California State University, Division of Analytical Studies, 1985, 1990; Davila, 1985a, 1985b; Murtha, Blumberg,

O'Dell, and Crook, 1989; Murtha, Protash, and Kaufman, 1983; Porter, 1989). In view of the fact that Jersey City State College students resemble more closely the national urban population, rather than students enrolled at other New Jersey colleges, the former student population may be viewed as an appropriate peer group.

The identification of a student peer group is particularly critical, in view of New Jersey state mandates which require initial placement in basic skills courses for all freshmen who demonstrate a need for remediation. Consequently, in designing an assessment model at the local level, it is not feasible to provide a control group. In the absence of a control group, it is important to select an appropriate comparison group to facilitate the interpretation of outcome data.

METHOD

Objectives and Evaluation Design

In order to formulate meaningful program objectives, it is essential to understand not only pertinent characteristics of the population served, but also the structure and components of the freshman basic skills program. In this regard, an Academic Foundations Program has been implemented to address the needs of the urban students who enroll at the College. Participating faculty and staff convene on an ongoing basis to review all pertinent curriculum issues, to determine program policies, and to design research projects. Freshman course placement is based on student performance on the state-mandated New Jersey College Basic Skills Placement Test. With respect to the College basic skills program, one remedial-level course is offered in English and in reading; two, in mathematics. These courses prepare students for college-level work in verbal and quantitative areas. Proficiency levels and remedial-course exit criteria are determined by student performance on course posttest measures.

In view of the needs of the basic skills population and the structure of the program as described above, the Director of Institutional Research formulated six program objectives. These short-term and long-term objectives were devised to assess the basic skills program structure; remedial-course placement rates; first-year course outcomes; skills developed by basic skills course completers; subsequent academic performance and retention rates; and basic skills research conducted by College faculty and staff.

To determine if these program objectives were met, quality indicator levels were determined. Standards in these areas were set in view of the program structure, characteristics of target and comparison groups, and statewide policies with respect to basic skills. Data in the above areas are reported as follows.

RESULTS

Program Outcomes

Qualitative and quantitative data were compiled, as appropriate, to determine if the six program objectives were met. The findings are presented as follows.

Objective 1: To establish a cohesive structure for the provision of basic skills courses and services

Evaluation Design: The structure and functions of The Academic Foundations Program were delineated to determine if a viable mechanism was provided for disseminating information and reviewing policy.

Outcome Data: The College has developed a formal structure which enables faculty and staff to address all critical basic skills issues. Central to this structure is the Academic Foundations Program. Overall planning is carried out by the Program's Coordinator and a Faculty and Staff Committee consisting of representatives of the departments and service units which participate in the Program. The full Committee convenes on a monthly basis and various subcommittees, periodically,

to review curriculum, testing, and evaluation policies, and to present recommendations to their respective departments. The above qualitative data show that the College has provided a viable mechanism for disseminating testing and course placement information and for reviewing policy issues on an ongoing basis.

Objective: 2(a) To identify skills-deficient freshmen **2(b)** To place skills-deficient freshmen in appropriate entry-level courses

Evaluation Design: New Jersey College Basic Skills Placement Test data were analyzed to determine if **(a)** ninety percent of the full-time freshmen were tested, and appropriate proficiency standards, set and **(b)** ninety percent were placed in designated basic skills courses.

Outcome Data: 2(a) Freshman test data were compiled and are reported in Tables 1 and 2.

TABLE 1. Identification and Testing of the Fall, 1992 Freshmen

Freshman Group	Full Time	Part Time	Total
Placement Test Required	532	149	681
Placement Test Administered	523	144	667
Percentage of Freshmen Tested	98%	97%	98%

TABLE 2. New Jersey Placement Test Cutoff Scores Established for Remedial Course Placement

Subtest	Cutoff Scores[a] NJ State Standards	Jersey City State College
Reading Comprehension	161	162
Essay	7	8 (local scores)
Computation	165	165
Elementary Algebra	167	173

[a] Scores below which basic skills course enrollment is mandated

As indicated in Table 1, placement tests were administered to 98% of the full-time, fall 1992 freshmen. Clearly, the College has exceeded the 90% quality indicator standard for full-time freshman testing. Further, as reported in Table 2, cutoff scores for placement in remedial-level courses at Jersey City State College equaled or exceeded the New Jersey standards. Consequently, local criteria for determining skill deficiencies were very much in line with statewide normative data in these areas.

Outcome Data: 2(b) Remedial course placement data were tabulated, and results are presented in Table 3.

TABLE 3. First-Year Remedial Course Enrollments:

Fall 1992 Freshmen

Remedial Course	Remediation Needed[a]				Course Enrollment			
	Full Time		Part Time		Full Time		Part Time	
	N	%	N	%	N	%	N	%
English:								
College Writing	179	34%	69	48%	179	100%	56	81%
Math:								
Basic Math	115	22%	95	66%	111	97%	81	85%
Math:								
Algebra for College	230	44%	42	29%	226	98%	36	86%
Reading:								
Reading for College	242	46%	89	62%	205	85%	56	63%

[a]Based on the placement test performance of fall, 1992 freshmen

As shown above, a substantial proportion of full-time, fall 1992 freshmen demonstrated an initial need for remediation. Their first-year course enrollments indicate that 100% of those who required remediation in writing enrolled in the appropriate English course; 97%, in the appropriate basic math course; 98%, in algebra; 85%, in reading. It is apparent that the College has exceeded the 90% quality indicator standard for full-time freshman placement in remedial English and mathematics courses. With respect to reading, the quality indicator level of 85% was slightly lower than expected.

Objective 3: To assess first-year course outcomes for fall, 1992 freshmen

Evaluation Design: Passing rates in first-and second-level freshman courses were compiled for the fall, 1992 cohort. Performance and completion rates were assessed in view of normative urban-peer data.

Outcome Data: Results are summarized in Tables 4 and 5.

TABLE 4. Remedial Course Passing Rates: First-Level Courses

Remedial Course	Full Time		Part Time	
	N	%	N	%
English: College Writing	110	61%	25	45%
Math: Basic Math	93	84%	64	79%
Math: Algebra for College	187	83%	29	81%
Reading: Reading for College	179	87%	47	84%

TABLE 5. Course Passing Rates: Second-Level Courses in English and Math

Course	Full Time			Part Time		
	N Enrolled	N Passed	% Passed	N Enrolled	N Passed	% Passed
English: Fund. Comm I.						
1st Course:						
College Writing	93	81	87%	23	18	78%
Fund. Comm. I	318	219	69%	70	55	79%
Math: Algebra for College						
1st Course:						
Basic Math	83	52	63%	38	25	66%
Algebra for College	226	187	83%	36	29	81%

Passing rates in first-level remedial courses are presented in Table 4. As shown, more than four-fifths of the full-time freshmen passed their initial courses in mathematics and reading; more than three-fifths, in English.

Follow-up data in second-level courses are reported in Table 5 for comparison groups in English and math. With respect to English, passing rates in Fundamentals of Communication I, the freshman-level writing course, were greater for full-time students who initially enrolled in and passed the remedial-level course (87%) than for freshmen who did not need remediation in writing (69%). With respect to mathematics, as shown in Table 5, passing rates in Algebra for College, the second-level remedial math course, were favorable but were lower for full-time freshmen who initially required remediation in computation (63%) than for those who demonstrated no computation deficiencies (83%).

As reported, the vast majority of freshmen passed the first-and second-level courses in English, math, and reading during their first year at the College. These findings are especially meaningful in view of the performance levels of the national urban student population. In this regard, many higher education researchers have described the challenges confronted by urban students in their academic transition to college (Richardson and Bender, 1985; Terenzini, 1993; Tinto, 1987). These challenges often have a negative impact on initial academic performance and course completion rates. Particularly in view of these trends, local course outcomes may be viewed as favorable, and the quality indicator levels attained by the majority of freshmen, most acceptable.

Objective 4: To assess growth in the respective areas for fall, 1992 basic skills students

Evaluation Design: Departmental and New Jersey state posttest data were analyzed

to determine if posttests were administered to 95% of the 1992-93 course completers. Additionally, pre-and posttest data in reading and math were analyzed to determine if students showed significant growth in the respective skill areas.

Outcome Data: Two posttest measures in reading and mathematics, i.e., the New Jersey and the departmental instruments, were administered. Both measures were utilized to assess proficiency in mathematics; only the departmental test, in reading. Mean scores on the pre-and posttest measures were obtained, and t-tests were computed to assess growth in the various skill areas. Results are reported in Tables 6 and 7.

TABLE 6: Analysis of New Jersey College Basic Skills Test Data in Reading and Mathematics For 1992-93 Course Completers

Subtest	N	Pretest Scores Mean	SD	Posttest Scores Mean	SD	t
Reading Comprehension	226	150.01	7.89	161.27	8.09	19.44***
Computation	157	157.58	5.38	170.26	5.04	27.09***
Elementary Algebra	216	163.24	5.75	176.54	5.66	29.47***

*** $p < .001$

TABLE 7. Analysis of Departmental Test Data in Reading and Mathematics for 1992-93 Course Completers

Subtest	N	Pretest Scores Mean	SD	Posttest Scores Mean	SD	t
Reading Comprehension	226	25.25	3.77	32.77	3.13	25.44***
Computation	157	8.04	5.12	21.94	5.44	26.75***
Elementary Algebra	216	9.16	4.52	22.76	3.77	34.91***

*** $p < .001$

The number of students tested represents 100% of the students who completed Reading for College; Basic Math; and Algebra for College during the 1992-93 academic year. Clearly, the College has exceeded the 95% quality indicator standard for posttesting course completers. It should be noted that a two-hour Minimum Competency Essay Test, scored by the English faculty Grading Committee, was administered to all students who completed the remedial-level English course. The essay was devised to assess mastery of freshman-level writing skills. However, in view of the lack of comparability between placement and posttest instruments, it was not possible to analyze the essay data on a pre-and posttest basis.

As shown in Tables 6 and 7, students enrolled in Reading for College showed significant growth in Reading Comprehension on the New Jersey Basic Skills Test, as well as the departmental test. Students enrolled in Basic Math made significant

gains in Computation on the New Jersey and the departmental tests. Finally, students who completed Algebra for College showed significant growth in Elementary Algebra on the New Jersey as well as the departmental tests. The significant gains demonstrated by course completers in reading and mathematics provide ample evidence to show that objective four has been met.

Objective 5: To assess outcomes for freshman cohorts in subsequent years

Evaluation Design: The academic performance and retention rates of previous freshman cohorts were analyzed by initial basic skills proficiency levels. Long-term performance and retention were assessed in view of urban-peer data.

Outcome Data: To understand student retention patterns over time, full-time freshmen who initially enrolled at the College in the fall 1989, the fall 1990, and the fall 1991 have been identified. Based on their New Jersey College Basic Skills Placement Test performance, the students were grouped into four categories, i.e., those who initially demonstrated proficiency in all areas (reading, writing, and computation); and those who demonstrated a need for skill development in one area; two areas; or three areas. Enrollment patterns and performance levels over time for students in each of the above categories are presented in Tables 8 and 9. Chi-square analyses were performed to determine if there were significant differences over time among students at various skill levels.

TABLE 8: Long-Term Retention Rates For Freshmen at Various Skill Levels

	Skill Level					
Retention Year	**Proficient**	**One Skill**	**Two Skills**	**Three Skills**	**Total**	χ^2
Two Years						**2.21**
Retained	60	101	120	36	317	
Not Retained	44	57	68	28	197	
Total Cohort	104	158	188	64	514	
Three Years						**0.61**
Retained	49	81	98	31	259	
Not Retained	55	77	90	33	255	
Total Cohort	104	158	188	64	514	
Four Years						**2.37**
Retained	45	74	90	24	233	
Not Retained	59	84	98	40	281	
Total Cohort	104	158	188	64	514	

TABLE 9: Long-Term Performance Levels For Freshmen at Various Skill Levels

	Skill Level					
Performance Year	**Proficient**	**One Skill**	**Two Skills**	**Three Skills**	**Total**	χ^2
Two Years						**17.35*** **
GPA $\geq$ 2.0	55	91	92	24	262	
GPA < 2.0	5	10	28	12	55	
Total Enrolled	60	101	120	36	317	
Three Years						**28.21*** **
GPA $\geq$ 2.0	47	75	86	18	226	
GPA < 2.0	2	6	12	13	33	
Total Enrolled	49	81	98	31	259	
Four Years						**3.36**
GPA $\geq$ 2.0	42	68	88	21	219	
GPA < 2.0	3	6	2	3	14	
Total Enrolled	45	74	90	24	233	

***$p < .001$

Data reported in Table 8 for three freshman cohorts show that attrition was greatest within the first two years of initial enrollment at the College, and continued at a slower rate in subsequent years. Overall, attrition has been slightly higher for freshmen with three skill deficiencies than for other freshman groups. However, results of the chi-square analyses showed that differences were not significant.

Data to show long-term academic performance for the various freshman groups have been presented in Table 9. With respect to performance by skill levels, significant differences were found after two and three years according to the students' initial skill proficiencies in verbal and quantitative areas.

Overall retention patterns at Jersey City State College were similar to those at other urban public institutions. As noted by Porter (1989): "The greatest single point of loss in persistence is the first year (p. 5)." Further, the role of entry-level skills in the retention patterns of urban students has been cited by various researchers. In a recent California State University publication (1990), it was stated: "The persistence rate for regular admits after five years (was) 54.8 percent --- for special admissions was 33.2 percent --- (p. 9)." Further, Murtha et al. (1989), in discussing trends at The City University of New York, have noted: "The number of skills tests passed at entry also directly correlates with graduation and persistence. --- University-wide, only a little more than one-fourth of those who failed all three skills tests persisted (p. 17)."

As indicated by higher education researchers, outcomes for underprepared freshmen have been less favorable than for academically proficient students. These national trends were evident to some extent at the local level, as well. However, differences over time between remedial and regular students at Jersey City State College were considerably less pronounced than at other urban institutions. Consequently, the long-term retention and performance levels at Jersey City State

College compared favorably with, and, in fact, often exceeded those at many urban peer institutions throughout the country. These findings provide evidence to show that objective five has been met.

Objective 6: To enhance the College's understanding of student needs, basic skills research has been conducted by College faculty and staff.

Evaluation Design: Research projects conducted by faculty and staff have been described; projects completed and presented to professional constituencies within the previous two years have been reported.

Outcome Data: Research has included projects conducted by the Mathematics Area Coordinator in collaboration with the Electronic Learning Laboratory Administrative Assistant; the Chairperson of the Reading Department; and the Coordinator of Freshman Testing. These research papers were entitled, respectively: The use of computer assisted instruction in developmental math; Effects of a precollege reading course on the academic self-esteem of urban college students; and Tested freshmen who did not enroll: Pertinent characteristics and subsequent educational decisions, Fall 1991. Two of these studies were presented at annual meetings of the New Jersey Association of Developmental Education; one, at the annual meeting of the College Reading Association. The above research has fostered a greater understanding of the academic and non-academic needs of the freshman students and has provided ample evidence to show that objective six has been met.

DISCUSSION

As reported in the previous section of this paper, evidence has been provided to show that five of the six program objectives have been met. With respect to basic skills course placements for full-time freshmen, the 90% quality indicator standard was met in English and mathematics, but not in reading. It may be appropriate

to assess the 85% course placement index in reading in view of the lack of a reading course requirement for graduation. In light of these findings, College faculty and staff are now reviewing this policy so that enrollment rates in the appropriate reading course may be enhanced.

With the exception of the reading course component of objective two, data have shown that the basic skills program objectives were met for the 1992-93 academic year. In this regard, outcomes were favorable with respect to the basic skills program structure, freshman course passing rates and skill development, subsequent college performance and retention, and pertinent faculty and staff research projects.

Overall, in developing an evaluation design to assess the effectiveness of the basic skills program at a public urban college, it has been necessary to address methodological as well as practical issues. As noted by higher education researchers, in conducting an evaluation at the institutional level, it is important to consider all relevant population and program factors. Therefore, the Director of Institutional Research consulted a variety of data sources to understand the salient characteristics of the population served; to identify pertinent comparison groups; and to gather information on curricular and policy issues that may impact on program implementation. As a result, it has been possible to formulate program objectives that are consonant with the needs of the population and to provide a meaningful frame of reference for assessing program outcomes.

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